Did you know?

- Controls Set History
  - http://www.cadops.bnl.gov/Controls/apps/sethistory/viewsethistory.html
  - Database record of all changes to accelerators
    - Device/parameter name, value
    - Timestamp
    - User name, computer name
  - Useful cross-reference during unsolved failures

Introduction to RHIC Operations

Part IV: RHIC Acceleration

Objectives

- Following this presentation, operators should:
  - Have a basic understanding of the systems involved in a RHIC acceleration ramp.
  - Be familiar with the managers and applications used for ramp tuning.
  - Be able to recognize and troubleshoot some common failures of RHIC acceleration.
- This presentation does not cover ramp start-up/setup, but should introduce the tools needed to follow other setup documents to that end.

Overview

- Ramp development: ODTC (+ common sense)
- Tools to use:
  - tape
  - RampEditor
  - LogView
    - Standard analysis plots sent to elog
  - RhicOrbitDisplay
    - Orbit corrections for subsequent ramp

Sequences, sequences, sequences

- Ramp execution is a fatalistic event.
  - Plan ahead, and react in hindsight, but what happens, happens.
- Ramp is entirely tape-driven.
  - Prep, Up, Down. Highlights:
    - Instrumentation setup & triggering
    - System checks
    - Loss monitor threshold management
    - Transition timing
    - Power supply ramp initiation

Ramp systems

- Ramp Editor
  - GUI to organize magnet settings throughout ramp
- Wfgman
  - Orchestrates power supply ramping
- Feedback, feed forward, replay
- RF
  - Reacts to ramp via Real Time Data Link (RTDL)
  - Feedback loops for frequency, radius, ring-ring synchro

What next?

- Review ramp performance to determine subsequent ramp tuning
  - Ramp efficiencies
  - Orbit correction
  - Tunes, chromaticity
    - Coherence monitor
  - Transition crossing

For more information...

- RMS web page
- OpsWiki
  - RHIC cycle checklist